



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,488	02/09/2004	Sam Nemazie	SiliconStor-01US	1503

7590 05/31/2006

Maryam Imam, Esq.
LAW OFFICES OF IMAM
Suite 1010
111 North Market St.
San Jose, CA 95113

EXAMINER

LEE, CHUN KUAN

ART UNIT PAPER NUMBER

2181

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/775,488	NEMAZIE, SAM	
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

All participants (applicant, applicant's representative, PTO personnel):

(1) Fritz Fleming (SPE).

(3) Maryam Imam (Attorney).

(2) Chun-Kuan (Mike) Lee (Examiner).

(4) Sam Nemazie (Inventor).

Date of Interview: 23 May 2006.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.

If Yes, brief description: _____.

Claim(s) discussed: 1-43 as in the attached proposed amendment.

Identification of prior art discussed: Grieff et al (US Patent 6,961,813).


Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Please see Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Supervisory


FRITZ FLEMING
PRIMARY EXAMINER 5/24/2006
GROUP 2100
#42181

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

The main discussion of the interview is related to the difference between how the current application (10/775488) defines the term "concurrent" and applicant's interpretation of (primary reference) Grieff's utilization of the term "concurrent."

Applicant has pointed out in the current application's Specification on page 44, 4th paragraph and through Figure 6, "concurrency" is defined as the "acceptance of commands, from either of two or more hosts, at any given time including when a device (such as a storage unit) is not in an idle state." Where Figure 6 shows the ability to concurrent receive the commands from Host 1 and Host 2 by buffering the commands in the Command Layer's Task File that is located in Fig. 6, ref. 310 and Fig. 6, ref. 320 and connected to the Host 1 and Host 2 respectively.

Further more, Applicant interpret Grieff's "concurrent" is associated with the concurrent acceptance of the requests rather than the concurrent acceptance of commands at any time. Applicant's interpretation appears to be based on the following citations in Grieff:

In Figure 1, applicant interpreted the figure to show that the commands are buffered in Saved NQCcmd FIS (Fig. 1, ref. 128) after the Arbiter (Fig. 1, ref. 112) and the switch (Fig. 1, ref. 110).

In Figures 2-8 (showing various state diagrams), column 5, lines 49-64 and column 7, lines 1-6, applicant have interpreted that the after receiving of concurrent requests to gain access of the device and after access have been granted to one of the host, no further command can be received from the other host. Therefore the request can be received concurrently but the command can not be received concurrently at anytime. However, applicant agrees that while the device is in an idle state, commands can be received concurrently.

In summary, applicant pointed out that the current application allows concurrent acceptance of commands, from either of two or more hosts, at any given time, while the device is in idle state or not in idle state. Whereas, applicant interpreted Grieff's invention to allow concurrent acceptance of requests but not concurrent acceptance of commands at any time, as concurrent acceptance of commands can only be implemented while the device is in idle state and if the device is not in idle state, concurrent acceptance of commands can not be implemented.

The Interview discussion further included applicant suggesting to amend the claims in the current application (10/775488) and the co-pending applications (10/775521, 10/775523 and 10/986732) to reflect more clearly regarding the concurrent acceptance of commands, from either of two or more hosts, at any given time. Such as possibly including the subject matter associated with the concurrent acceptance of commands into step d) an arbitration and control circuit, in the independent claim 1 of the current application (10/775488). Applicant also suggested implementing similar amendments to the co-pending applications.

The interview discussion further included the rejection of claims under Obvious Double Patenting, as applicant may choose to traverse such rejection as the secondary reference provided for the rejection is not co-own by the applicant.

LAW OFFICES OF IMAM
111 NORTH MARKET STREET, SUITE 1010
SAN JOSE, CALIFORNIA 95113
TELEPHONE: (408) 271-8752/3
FAX: (408) 271-8886

FAX COVER SHEET

THIS FACSIMILE AND THE INFORMATION IT CONTAINS IS INTENDED TO BE A **CONFIDENTIAL COMMUNICATION** ONLY TO THE PERSON OR ENTITY TO WHOM IT IS ADDRESSED. IF YOU HAVE RECEIVED THIS FACSIMILE IN ERROR, PLEASE NOTIFY US BY TELEPHONE AND RETURN THE ORIGINAL FAX TO THIS OFFICE BY MAIL.

DATE: May 19, 2006

TO: Examiner Chun Kuan (Mike) Lee
USPTO

FAX NO.: (571) 273-0671

PHONE NO.: ()

RE: U.S. Serial No. ~~40/031,827~~ 10/775448
OFL

FROM: Erika Villafana for Maryam Imam

PHONE NO.: 408-271-8752/3

FAX NO.: 408-271-8886

Number of Pages Including Cover Sheet 13

Originals will follow by Mail: YES ☐ NO ☒

MESSAGE:

Please see attached.

CLIENT/MATTER NO: SiliconStor-01US

IF YOU DO NOT RECEIVE ALL THE PAGES INDICATED ABOVE, PLEASE CALL BACK AS SOON AS POSSIBLE AND ASK FOR THE EXTENSION OF THE FAX OPERATOR WHO SENT THE FACSIMILE.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant:	Sam Nemazie	Docket No:	Siliconstor-0001US
Serial No:	10/051,827 10/775,448	Group Art Unit:	2181
Filing Date:	01/16/2002 CKL	Examiner:	Lcc, Chun Kuan
Confirmation No.:	1503	Customer No.:	27728

For: "SERIAL ADVANCED TECHNOLOGY ATTACHMENT (SATA) SWITCH"

Mail Stop No Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

AMENDMENT

Sir:

Responsive to the Non-Final Office Action mailed on March 14, 2006, please amend the above-identified application as follows:

Amendments to the Specification begins on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims, which begins on page 6 of this paper.

Remarks/Arguments begin on page 12 of this paper.

Siliconstor-0001

1

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

Amendments To the Specification:

Please replace paragraph [0060] with the following amended paragraph:

[0060] Referring now to Fig. [[]] 5, a method employed in one of the embodiments of the present invention uses a level 2 SATA port for host and device ports and a FIS FIFO between the host ports and device ports to avoid any data drop out. The level 2 SATA port responds immediately to HOLD/HOLDA rather than relaying the primitives and waiting for response from the other port. Fig. 5 shows a high-level block diagram of a switch 200, switching within layer 2 and in accordance with an embodiment of the present invention. The switch 200 is shown to comprise a SATA level 2 host port 210, a SATA level 2 host port 220, a SATA level 2 device port 230, a FIS payload FIFO 245, a multiplexer 242a, a multiplexer 242b, a demultiplexer 243, an active host selection circuit 241, and a switch initialization circuit 244.

Please replace paragraph [0154] with the following amended paragraph:

[0154] It is obvious to one of ordinary [[skillin]] skill the art to extend embodiments of an SATA active switch of the present invention [[to SATA]] to an ATA Active Switch. Figs. 11a and 11b show such embodiments of SATA to ATA active switch that allow concurrent access by two hosts connected to a switch via a SATA link to a storage unit connected to a switch via an ATA link.

Please replace paragraph [0157] with the following amended paragraph:

[0157] Fig. [[11a]] 11b shows another embodiment of SATA to ATA switch 700 according to an embodiment of the present invention. The switch 700 is the same as the switch 500 of Fig. 10a with the following differences:

- The SATA level 3 device port 530 in switch 500 is replaced with a SATA layer 3 to ATA Bridge 730
- The SATA link 531tx, 531rx in switch 500 are replaced with an ATA link 736.

Please replace paragraph [0158] with the following amended paragraph:

Application No. 10/775,488
Amendment dated April 11, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

[0158] The SATA layer 3 to ATA Bridge 730 ~~[[comprises a]]~~ comprises a ATA Transport Layer 733, and a ATA Interface Bridge 732. The ATA Interface Bridges 732 is connected to the ATA link 736 and converts (bridges) the activity on the ATA bus 736 to the activity on the Transport layer interface 733io and visa versa. The Transport Layer 733 is the same as the Transport Layer 413 of Fig. ~~[[9.]]~~ 9.

Please replace paragraph [0163] with the following amended paragraph:

[0163] To summarize, in an embodiment of the present invention, two hosts, host 1 and host 2, such as host 11 and host 12 in Fig. 3a, coupled to a storage unit for writing and reading information thereto and from, seek concurrent access to a storage unit (such as the storage unit 16, shown in Fig. 3a) through a switch, such as switches 300 and 500 of Figs. 6 and 10a, respectively. This is an ~~[[importantdifference]]~~ important difference with that of prior art systems because while in the prior art, two hosts have access to the storage unit, they cannot concurrently access the same. In the prior art, if a connection between one of the hosts to the storage unit fails for some reason, the other host can continue to access the storage unit. However, switching to the other host, after the detection of a failure, causes a glitch in that the system needs to be reset prior to the other host's communication with the storage unit.

Please replace paragraph [0164] with the following amended paragraph:

[0164] In yet other prior art systems, such as fault-tolerant systems, one host shadows the other host, that is whatever the active host is doing is attempted to be mimicked by the inactive host. This concept is called "heartbeat" indicating a connectivity between the two hosts to the extent both hosts are aware of each other's presence and that the other is operational. That is, one host realizes the failure by the other host in the event this "heartbeat" is no longer detected at which time the host that has performed the detection takes over accessing the storage unit and continues to operate without the other host. Yet ~~[[in]]~~ such prior art systems require using a dual ported storage unit and can not use a single ported storage unit since the hosts are not capable of accessing the storage unit concurrently as done by the present invention.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

Please replace paragraph [0165] with the following amended paragraph:

[0165] Within enterprise systems, there is a great need for the embodiments of the present invention because multiple hosts are required to access a single ported storage unit at the same time. In the present invention, commands are transferred from the hosts to the storage unit concurrently as are other types of information. The present invention eliminates any glitches caused by switching from an active to an inactive host, as experienced by some prior art systems described hereinabove. In fact, in the present invention, switching between the two hosts is performed in a continuous and smooth fashion.

Please replace paragraph [0167] with the following amended paragraph:

[0167] As shown in Fig. 4, in one of the systems of the prior art, there is a physical layer for one host, a another physical layer for the other host and a physical layer for the device or storage unit used by a switch that is coupled between the hosts and the device. None of the other layers are in communication with the hosts and/or device. Through the physical layer, one of the hosts is selected by a multiplexer for communicating with the device and then the device sends data to that active host. An active host selection circuit decides or selects which host is initially selected along with an initialization circuit. Thus, this prior art switch only needs layer one or the physical layer to communicate, no other layers are needed for communications. However, as noted earlier, one of the problems with such a prior art system is the delay through the switch. Another problem is that only one host can communicate with the device at any given time.

Please replace paragraph [0170] with the following amended paragraph:

[0170] In Fig. 6, concurrent access by two hosts to a device is depicted. Concurrency, as used herein, indicates acceptance of commands, from either of two or more hosts, at any given time including when a device (such as a storage unit) is not in an idle state. Idle state is when the device is not processing other commands. Traditionally, concurrency is achieved by multiplexing each host at a given slice of time, or what is commonly referred to as Time Division Multiplexing (TDM). However, this does not work well for storage devices because

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

one may be in the middle of data transfer when suddenly, the transfer is interrupted to service another host due to a new time slice, or slot, occurring, which would be devastating to system performance and may result in lost data.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

Amendments To the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Application No. 10/775,488
Amendment dated April 11, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

1 Claim 1 (currently amended). A switch coupled between a plurality of host units and a device
2 for communicating there between and comprising:
3 a) a first serial advanced technology attachment (ATA) port coupled to a first host
4 unit;
5 b) a second serial ATA port coupled to a second host unit;
6 c) a third serial ATA port coupled to a device; and
7 d) an arbitration and control circuit for selecting one of the first host or second host
8 units to be communicatively coupled to the device, through the switch, whenever
9 either one of the first or second host units sends commands for execution thereof
10 by the device,
11 wherein said arbitration and control circuit causes concurrent access of the device by
12 the first and second host units.
13

1 Claim 2 (original): A switch as recited in claim 1 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 3 (original): A switch as recited in claim 1 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 4 (original): A switch as recited in claim 3 wherein said third serial ATA port
2 includes a device task file.

1 Claim 5 (original): A switch as recited in claim 3 wherein said first, second and third ports
2 are level 4 ports.

1 Claim 6 (original): A switch as recited in claim 1 wherein said device is a storage unit.

1 Claim 7 (original): A switch as recited in claim 1 wherein said switch is employed in an
2 enterprise system.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

1 Claim 8 (canceled).

1 Claim 9 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the device to the first or second host units
3 through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 10 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'identify drive response'.

1 Claim 11 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'Tag'.

1 Claim 12 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the first or second host units to the device
3 through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 13 (original): A switch as recited in claim 12 wherein the information is referred to
2 as 'Tag'.

1 Claim 14 (original): A switch as recited in claim 12 wherein the arbitration and control
2 circuit include a Tag/Active Mapping Circuit for mapping a host tag to a device tag
3 and inverse mapping for identifying a host.

1 Claim 15 (original): A switch as recited in claim 1 wherein either the first or the second
2 host sends a legacy queue command queued by the device.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

1 Claim 16 (currently amended): A switch as recited in claim 1 wherein either the first or
2 the second host sends a native queue command for [for] execution thereof by the
3 device.

1 Claim 17 (currently amended): A switch as recited in claim 16 [where] wherein the Tag
2 in the native queue command is modified prior to sending to the Device to avoid
3 using the same Tag for both hosts and not to exceed the [maximum] maximum
4 allowed Tag value.

1 Claim 18 (currently amended): A switch as recited in claim 17 [where] wherein the Tag
2 received in a FIS from the Device is modified to its original value prior to sending
3 the same to the Host.

1 Claim 19 (original): A switch as recited in claim 1 wherein the first, second and third ports
2 are level 3 serial ATA ports and a Data FIS FIFO and an associated FIFO Control are
3 coupled to the first, second and third ports and are located externally thereto.

1 Claim 20 (currently amended): A switch comprising:
2 a) a first serial advanced technology attachment (ATA) port for connection to a
3 first host unit;
4 b) a second serial ATA port for connection to a second host unit;
5 c) a third serial ATA port for connection to a device; and
6 d) an arbitration and control circuit for selecting either the first host unit or the
7 second host unit to be communicatively coupled to the device, through the
8 switch, when either host units sends commands for execution by the device,
9 wherein while one of the first or second host units is coupled to the device,
10 through the switch, the other one of the first or second host units sends a command to the
11 switch for execution by the device.

1 Claim 21 (original): A switch as recited in claim 20 wherein the switch is a serial ATA
2 switch.

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

- 1 Claim 22 (original): A switch as recited in claim 20 wherein said first serial ATA port
2 includes a first host task file.
- 1 Claim 23 (original): A switch as recited in claim 22 wherein said second serial ATA port
2 includes a second host task file.
- 1 Claim 24 (original): A switch as recited in claim 23 wherein said third serial ATA port
2 includes a device task file.
- 1 Claim 25 (original): A switch as recited in claim 20 wherein said device is a storage unit.
- 1 Claim 26 (original): A switch as recited in claim 20 wherein said switch is employed in an
2 enterprise system.
- 1 Claim 27 (canceled).
- 1 Claim 28 (original): A switch as recited in claim 20 wherein information, in the form of
2 data, commands or setup, is transferred from the device to the first or second host
3 units through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.
- 1 Claim 29 (original): A switch as recited in claim 28 wherein the information is referred to
2 as 'TAG'.
- 1 Claim 30 (original): A switch as recited in claim 28 wherein the information is referred to
2 as 'identity drive response'.
- 1 Claim 31 (original): A switch as recited in claim 20 wherein information, in the form of
2 data, commands or setup, is transferred from the first or second host units to the
3 device through the switch and the information is modified by the switch prior to being

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 32 (original): A switch as recited in claim 31 wherein the information is referred to
2 as "Tag".

1 Claim 33 (new). A method of employing a switch coupled between a plurality of
2 host units and a device for communicating therebetween, the method comprising:
3 a) coupling a first serial advanced technology attachment (ATA) port to a first
4 host unit;
5 b) coupling a second serial ATA port to a second host unit;
6 c) coupling a third serial ATA port to a device; and
7 d) selecting one of the first host or second host units to be communicatively
8 coupled to the device, through the switch, whenever either one of the first or
9 second host units sends commands for execution thereof by the device,
10 wherein causing concurrent access of the device by the first and second host units.

1 Claim 34 (new): A method of employing a switch, as recited in claim 33, further
2 including the steps of transferring information, in the form of data, commands or
3 setup, from the device to the first or second host units through the switch and
4 modifying the information prior to the information being received by the first or
5 second host units such that modified information rather than the information is
6 received by the first or second host units.

1 Claim 35 (new): A method of employing a switch, as recited in claim 34, wherein the
2 information is referred to as "identify drive response".

1 Claim 36 (new): A method of employing a switch, as recited in claim 34, wherein the
2 information is referred to as "Tag".

Application No. 10/775,488
Amendment dated April __, 2006
Reply to Non-Final Office Action of March 14, 2006

PROPOSED AMENDMENT

1 Claim 37 (new): A method of employing a switch, as recited in claim 34, further
2 including the steps of transferring information, in the form of data, commands or
3 setup, from the first or second host units to the device through the switch and
4 modifying the information by the switch prior to being received by the device such
5 that modified information rather than the information is received by the device.

1 Claim 38 (new): A method of employing a switch, as recited in claim 37, wherein the
2 information is referred to as 'Tag'.

1 Claim 39 (new): A method of employing a switch, as recited in claim 37, wherein
2 mapping a host tag to a device tag and inverse mapping for identifying a host.

1 Claim 40 (new): A method of employing a switch, as recited in claim 34, further
2 including the step of sending a legacy queue command queued.

1 Claim 41 (new): A method of employing a switch, as recited in claim 34, further
2 including the step of sending a native queue command for execution thereof by the
3 device.

1 Claim 42 (new): A method of employing a switch, as recited in claim 41, wherein
2 modifying the Tag in the native queue command prior to sending to the Device to
3 avoid using the same Tag for both hosts.

1 Claim 43 (new): A method of employing a switch, as recited in claim 42, wherein
2 modifying the Tag received in a FIS from the Device prior to sending the same to the
3 Host.

1